

WHAT IS CLAIMED IS:

1. A composite fiber-resin structural member, comprising:
fiber-resin tubing including a central axis; and
5 an elongated truss having a longitudinal axis and including at least
two wires and a plurality of diametral fibers;

wherein the truss fits within the fiber-resin tubing such that the
central axis of the fiber-resin tubing and the longitudinal axis of the truss are
coaxial.

2. The structural member of claim 1, wherein the diametral fibers
comprise carbon fiber.

3. The structural member of claim 1, wherein the diametral fibers
15 form circular bundles around the wires.

4. The structural member of claim 1, wherein the diametral fibers
are of substantially equal length from the longitudinal axis of the truss.

5. The structural member of claim 1, wherein a diameter of the
20 truss is substantially the same as an inside diameter of the fiber-resin tubing.

6. The structural member of claim 1, wherein at least one of the
wires of the truss is mechanically textured.

7. The structural member of claim 6, wherein the mechanically
25 textured wire includes a repeating distortion along at least a portion of its
length.

8. A composite fiber-resin structural member, comprising:
30 fiber-resin tubing including a central axis; and

an elongated truss having a longitudinal axis and including a wire and a plurality of diametral carbon fibers forming bundles around the wires;

wherein the truss fits within the fiber-resin tubing such that the central axis of the fiber-resin tubing and the longitudinal axis of the truss are coaxial.

9. The structural member of claim 8, wherein the diametral fibers are of substantially equal length from the longitudinal axis of the truss.

10. The structural member of claim 9, wherein a diameter of the truss is substantially the same as an inside diameter of the fiber-resin tubing.

11. The structural member of claim 8, wherein the wire is mechanically textured.

12. The structural member of claim 11, wherein the mechanically textured wire includes a repeating distortion along at least a portion of its length.

13. A composite fiber-resin structural member, comprising:
fiber-resin tubing including a central axis; and
an elongated truss having a longitudinal axis and including at least two wires and a plurality of diametral carbon fibers forming circular bundles around the wires;

wherein the truss fits within the fiber-resin tubing such that the central axis of the fiber-resin tubing and the longitudinal axis of the truss are coaxial, the diametral fibers are connected to the fiber-resin tubing with resin, and wherein the diametral fibers are of substantially equal length from the longitudinal axis of the truss.

14. The structural member of claim 13, wherein at least one of the wires of the truss is mechanically textured.

5 15. The structural member of claim 14, wherein the mechanically textured wire includes a consistent and repeating distortion along at least a portion of its length.